Start

100

110

NORMAL
THERMOSTAT
OPERATION

125

SCHEDULE
OVERRIDE
MENU

130

USER
RESPONSE

135

TEMPORARILY
MODIFYING
SCHEDULE

140
START TIME

145
END TIME

150
TEMPERATURE

Figure 1

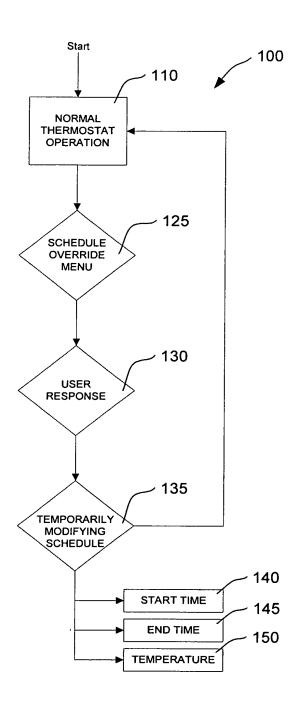Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
Docket: H0005441-9950 (1161.1137101)
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200

210

CONTROLLER

220

CONTROL

225

SCHEDULE
OVERRIDE
MENU
GENERATOR

250

PROGRAMMABLE
SCHEDULE

260

USER
INTERFACE

CONTROL
SIGNAL

240

RESPONSE
ACCEPTOR

TEMPORARY
OVERRIDE
SCHEDULE

245

Figure 2

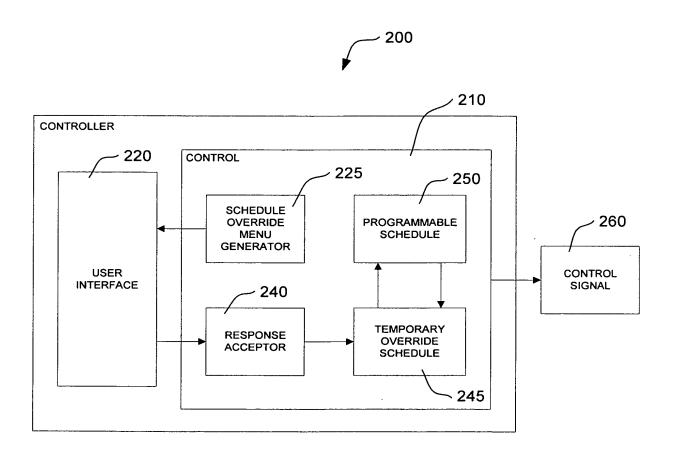Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
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For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
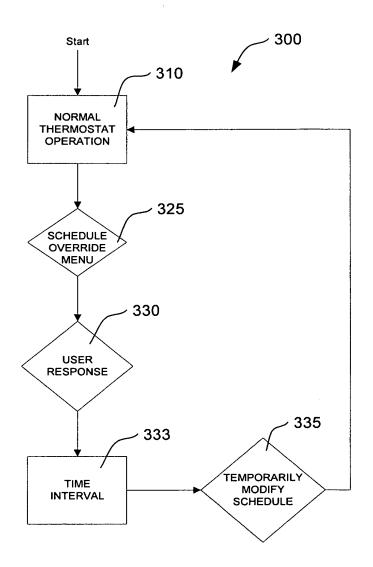Docket: H0005441-9950 (1161.1137101)
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Start

300

310

NORMAL
THERMOSTAT
OPERATION

325

SCHEDULE
OVERRIDE
MENU

330

USER
RESPONSE
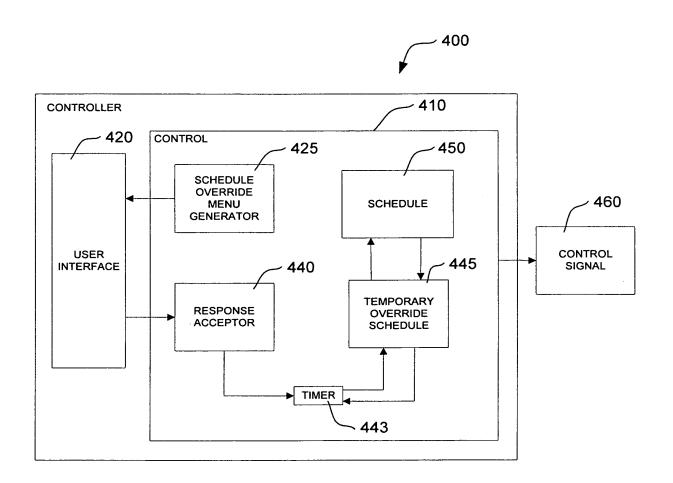
333

TIME
INTERVAL

335

TEMPORARILY
MODIFY
SCHEDULE

Figure 3

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
Filed: December 2, 2003
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Figure 4

Start

500

510

NORMAL
THERMOSTAT
OPERATION

525

SCHEDULE
COMFORT
OVERRIDE
MENU

530

USER
RESPONSE

533

TIME
INTERVAL

START
TIME

535

TEMPORARILY
MODIFY
SCHEDULE

540

OVERRIDE START TIME

545

OVERRIDE END TIME

550

OVERRIDE COMFORT TEMPERATURE

Figure 5

Start

600

610

NORMAL
THERMOSTAT
OPERATION

625

SCHEDULE
ENERGY
SAVING
MENU

630

USER
RESPONSE

633

TIME
INTERVAL

START
TIME

635

TEMPORARILY
MODIFY
SCHEDULE

640
OVERRIDE START TIME

645
OVERRIDE END TIME

650
OVERRIDE ENERGY SAVING TEMPERATURE

Figure 6
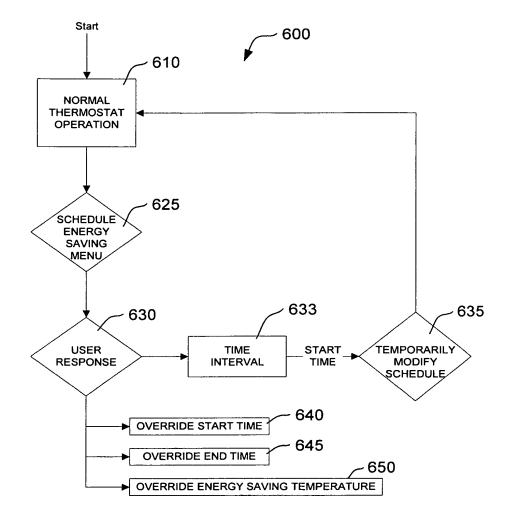
Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
Docket: H0005441-9950 (1161.1137101)
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Figure 7

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
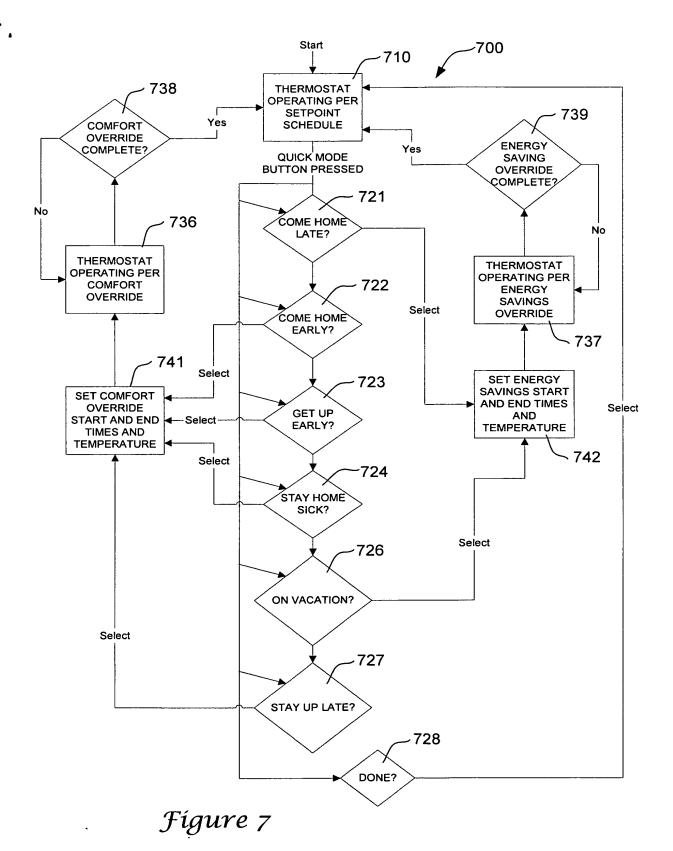Docket: H0005441-9950 (1161.1137101)
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800

CURRENTLY   SET TO

68   68

802 —— FOLLOWING
NORMAL SCHEDULE

[INFO] [MANUAL] [QUICK MOD] [MORE]

810 —

801

Figure 8A

800

PICK ONE
STAY HOME
LEAVE LATE ———— 820
RETURN EARLY
RETURN LATE —— 830
VACATION

810 —

Figure 8B

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
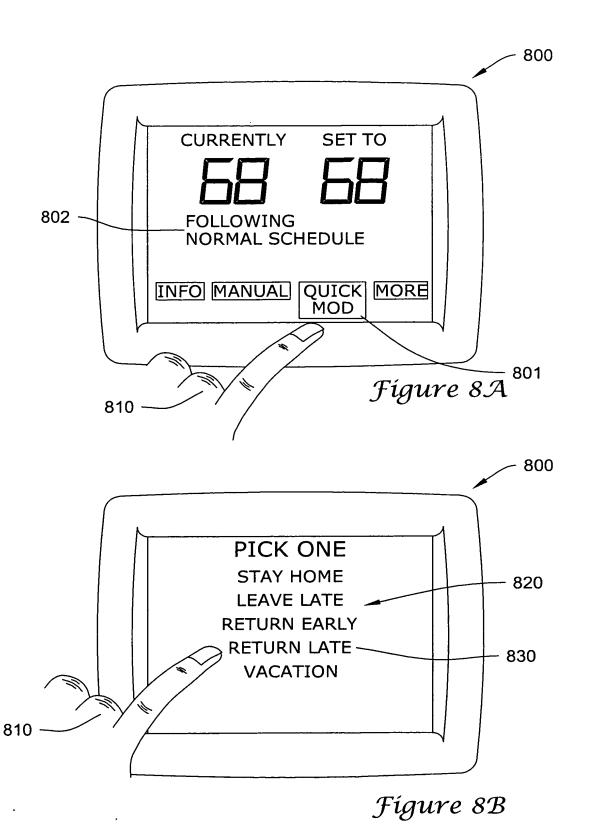Docket: H0005441-9950 (1161.1137101)
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800

NORMALLY 4:00 — 850

— 840

NEW TIME 9:30 ◆

810

ENTER

Figure 8C

800

CURRENTLY   SET TO

68   68

860

FOLLOWING
HOME LATE SCHEDULE

INFO MANUAL QUICK MOD MORE

Figure 8D

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
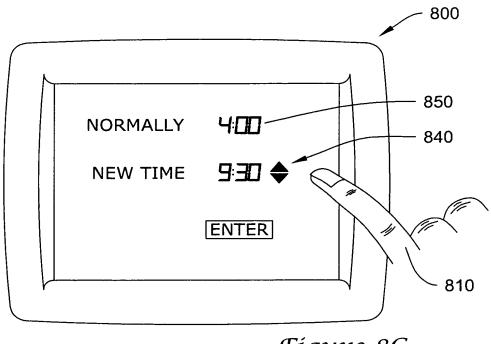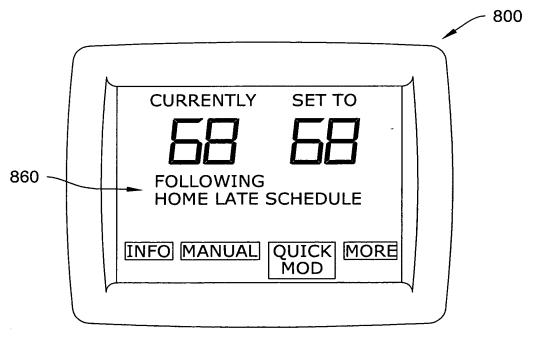Filed: December 2, 2003
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900

CURRENTLY   SET TO

68   68

902 — FOLLOWING
NORMAL SCHEDULE

INFO MANUAL QUICK   MORE
                MOD

910   901

Figure 9A

900

PICK ONE
STAY HOME ———— 930
LEAVE LATE
RETURN EARLY
RETURN LATE
VACATION ———— 920

910

Figure 9B

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
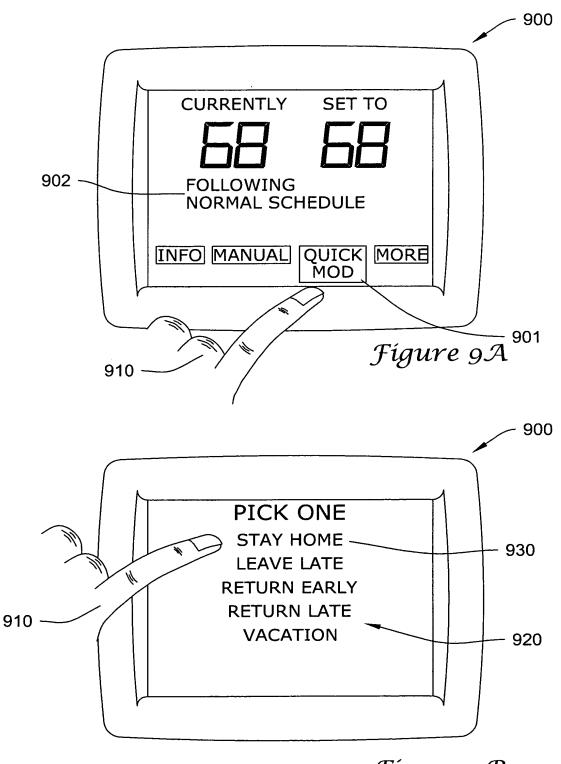Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
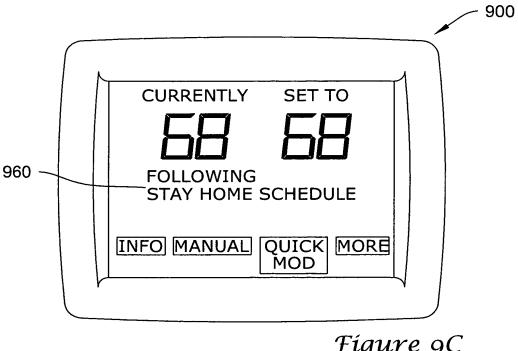Docket: H0005441-9950 (1161.1137101)
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900

CURRENTLY   SET TO

68   68

960

FOLLOWING
STAY HOME SCHEDULE

| INFO | MANUAL | QUICK MOD | MORE |

Figure 9C

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
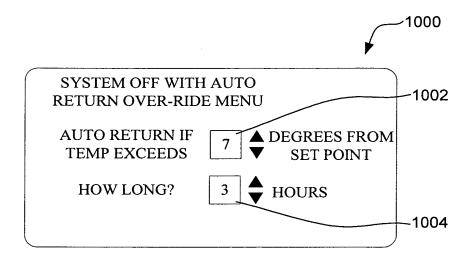Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
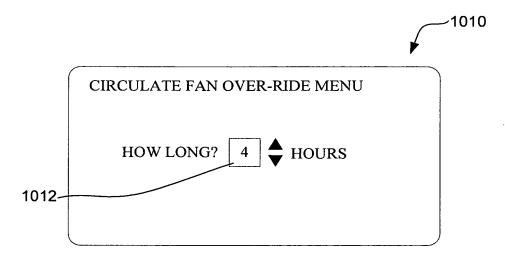Docket: H0005441-9950 (1161.1137101)
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1000

SYSTEM OFF WITH AUTO
RETURN OVER-RIDE MENU —1002

AUTO RETURN IF   7 ▲ DEGREES FROM
TEMP EXCEEDS   ▼   SET POINT

HOW LONG?   3 ▲ HOURS
                 ▼
—1004

Figure 10

1010

CIRCULATE FAN OVER-RIDE MENU

HOW LONG? 4 ▲ HOURS
               ▼

1012

Figure 11

1014

VENTILATOR OVER-RIDE MENU   1016

HOW LONG?   [4] ▲▼ HOURS
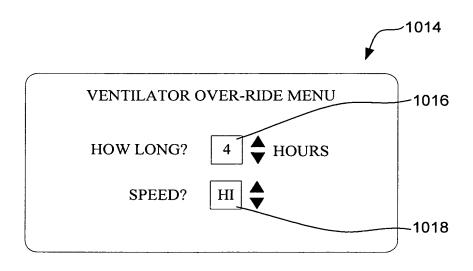
SPEED?   [HI] ▲▼

1018

Figure 12

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1020

1024

SYSTEM IN OPEN WINDOWS MODE

ALARM

WINDOWS
OPENED

WINDOWS
CLOSED

1028

1022

1026

Figure 13

Applicant: John B. Amundson et al.
Serial No.: New US Patent Application
Filed: December 2, 2003
For: CONTROLLER INTERFACE WITH MENU
SCHEDULE OVERRIDE
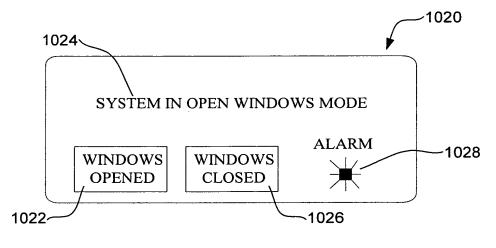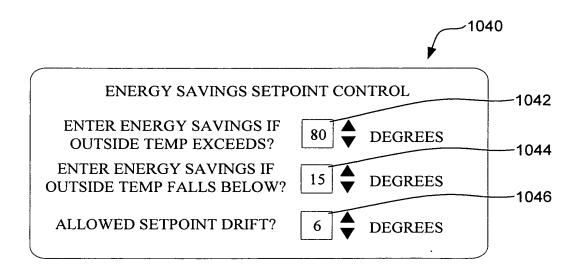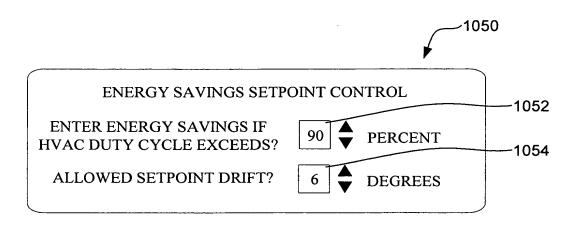Docket: H0005441-9950 (1161.1137101)
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1040

ENERGY SAVINGS SETPOINT CONTROL — 1042

ENTER ENERGY SAVINGS IF
OUTSIDE TEMP EXCEEDS?   80 ▲▼ DEGREES

ENTER ENERGY SAVINGS IF   — 1044
OUTSIDE TEMP FALLS BELOW?   15 ▲▼ DEGREES

— 1046
ALLOWED SETPOINT DRIFT?   6 ▲▼ DEGREES

Figure 14

1050

ENERGY SAVINGS SETPOINT CONTROL — 1052

ENTER ENERGY SAVINGS IF
HVAC DUTY CYCLE EXCEEDS?   90 ▲▼ PERCENT

— 1054
ALLOWED SETPOINT DRIFT?   6 ▲▼ DEGREES

Figure 15